

# ADG-310

## Forward Tilt/Auto Door with Heat Fault Indicator **Operator's Manual**

**WARNING:** For your safety the information in this manual must be followed to minimize the risk of fire or explosion or to prevent property damage, personal injury or loss of life.

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

### **WHAT DO YOU DO IF YOU SMELL GAS**

- \* Do not try to light any appliance.
- \* Do not touch any electrical switch; do not use any phone in your building.
- \* Clear the room, building or area of all occupants.
- \* Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- \* If you cannot reach your gas supplier, call the fire department.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.



For replacement parts, contact the distributor from which the dryer was purchased or

**American Dryer Corporation**

88 Currant Road

Fall River MA 02720-4781

Telephone: (508) 678-9010 / Fax: (508) 678-9447

E-mail: [service@amdry.com](mailto:service@amdry.com)

# **Retain This Manual In A Safe Place For Future Reference**

**American Dryer Corporation** products embody advanced concepts in engineering, design, and safety. If this product is properly maintained, it will provide many years of safe, efficient, and trouble-free operation.

***ONLY properly licensed technicians should service this equipment.***

**OBSERVE ALL SAFETY PRECAUTIONS** displayed on the equipment or specified in the installation/operator's manual included with the dryer.

**WARNING: UNDER NO CIRCUMSTANCES should the door switch or the heat circuit devices ever be disabled.**

**WARNING: The dryer must never be operated with any of the back guards, outer tops, or service panels removed. PERSONAL INJURY or FIRE COULD RESULT.**

We have tried to make this manual as complete as possible and hope you will find it useful. ADC reserves the right to make changes from time to time, without notice or obligation, in prices, specifications, colors, and material, and to change or discontinue models.

## **Important**

For your convenience, log the following information:

DATE OF PURCHASE \_\_\_\_\_ MODEL NO. **ADG-310 Fwd Tilt/Auto Door**

DISTRIBUTOR'S NAME \_\_\_\_\_

Serial Number(s) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Replacement parts can be obtained from your distributor or the ADC factory. When ordering replacement parts from the factory, you can FAX your order to ADC at (508) 678-9447 or telephone your orders directly to the ADC Parts Department at (508) 678-9010. Please specify the dryer **model number** and **serial number** in addition to the **description** and **part number**, so that your order is processed accurately and promptly.

The illustrations on the following pages may not depict your particular dryer exactly. The illustrations are a composite of the various dryer models. Be sure to check the descriptions of the parts thoroughly before ordering.

**INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE USER SMELLS GAS MUST BE POSTED IN A PROMINENT LOCATION. THE INSTRUCTIONS TO BE POSTED SHALL BE OBTAINED FROM THE LOCAL GAS SUPPLIER.**

## **IMPORTANT**

**YOU MUST DISCONNECT and LOCKOUT THE ELECTRIC SUPPLY and THE GAS SUPPLY BEFORE ANY COVERS or GUARDS ARE REMOVED FROM THE MACHINE TO ALLOW ACCESS FOR CLEANING, ADJUSTING, INSTALLATION, or TESTING OF ANY EQUIPMENT per OSHA (Occupational Safety and Health Administration) STANDARDS.**

## **CAUTION**

**LABEL ALL WIRES PRIOR TO DISCONNECTION WHEN SERVICING THE COMPUTER BOARD and THE IGNITION MODULE. WIRING ERRORS CAN CAUSE IMPROPER AND DANGEROUS OPERATION.**

## **CAUTION**

**DRYER(S) SHOULD NEVER BE LEFT UNATTENDED WHILE IN OPERATION.**

## **WARNING**

**The dryer must not be operated with any of the front and/or rear control doors, side access doors, or service panels removed. PERSONAL INJURY COULD RESULT.**

## **FOR YOUR SAFETY**

**DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPOR AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.**

**DO NOT DRY MOP HEADS IN THE DRYER.**

**DO NOT USE DRYER IN THE PRESENCE OF DRY CLEANING FUMES.**

## **IMPORTANT**

**PLEASE OBSERVE ALL SAFETY PRECAUTIONS displayed on the equipment and/or specified in the installation/operator's manual included with the dryer.**

**Dryer(s) must not be installed or stored in an area where it will be exposed to water and/or weather.**

# ADG-310

## Forward Tilt/Auto Door with Heat Fault Indication

### MACHINE OPERATION SUMMARY

This AD-310 incorporates one (1) emergency stop button located on the right front of the machine. This button is "TURN TO RELEASE," and **must be** in the released mode to power the machine. When the emergency button is released, the Phase 5 micro-computer's display will light. To turn on the AD-310's control voltage, press the green "ON" button located on the right front control door.

**NOTE:** If a Sprinkler System is incorporated in the machine, the Sprinkler System **must be** powered for the control power to engage. Refer to the AD-310 Sprinkler System Addendum (ADC Part No. 112233) for sprinkler system information.

The ADG-310 has two (2) electronic controllers:

- Phase 5 micro-computer...for material drying.
- Micro-1 PLC (Programmable Logic Controller)...for burner status monitoring, end of cycle light control, forward tilt, and jog functions.

The Phase 5 micro-computer responds to keypad commands only when the AD-310's doors and lint screen drawer are both closed.

The Micro-1 PLC (Programmable Logic Controller) monitors burner status during a drying cycle, and stops the drying cycle if any fault is detected with the burners. It also controls the "FORWARD TILT" (Rear Up) and "LEVEL" (Rear Down) functions of the ADG-310's tumbler section, in addition to forward and reverse tumbler manual jog selections.

### ADG-310 DETAILED OPERATION INFORMATION

Anytime the airjet signal is asserted the "END OF CYCLE" light (located on the top of the tumbler section) will begin to flash once a second and remain on until the "LOAD DOORS" are opened.

**IMPORTANT:** The load doors will only open, when a drying cycle is stopped otherwise the unload selector switch will not respond to a selection.

## LOADING and UNLOADING THE MACHINE

Once a drying cycle has been completed, the tumbler can be loaded in the level position or either unloaded in the level position or in the forward tilt position (Rear Up).

### LOAD or UNLOAD LEVEL

Select "LEVEL" on the UNLOAD "LEVEL - OFF - TILTED" selector switch. This selection will open the front doors.

**NOTE:** The forward or reverse jog functions **DO NOT WORK** in the level position.

### UNLOAD TILTED

Selected "TILTED" on the UNLOAD "LEVEL - OFF - TILTED" selector switch. This selection will open the front doors, then tilt the tumbler section forward (i.e., rear up).

Once the tumbler section begins to tilt forward the jog functions will become operational.

To level the machine from a forward tilt position, choose one from the following selections:

- UNLOAD "LEVEL - OFF - TILTED"

This selection will level the machine and keep the doors open.

- UNLOAD "LEVEL - OFF - TILTED"

This selection will level the machine and close the front doors.

**NOTE:** There is a four (4) second dwell (stop) time between a forward and a reverse selection to prevent plug starting the drive motor.

**REMEMBER: THE LOAD DOORS MUST BE FULLY OPEN TO CAUSE THE MACHINE TO TILT FORWARD.**

## HEATER FAULT ROUTINE

During a drying cycle the PLC (Programmable Logic Controller) monitors the status of the Phase 5 "Heat On/Off" signal, and the signals of the front and rear burner controllers to their respective gas valve.

## Heater Fault Routine

- At the start of every "**HEAT ON**" signal of the Phase 5 computer, the PLC (Programmable Logic Controller) monitors the time between the "**HEAT ON**" and "**GAS VALVE ON**" signals. If the time between these two (2) signals is greater than 15 seconds a "**HEATER FAULT**" will occur.
- After the initial 15 second time difference monitoring routine, the PLC will then continue to monitor the "**HEAT ON**"/"**GAS VALVE STATUS**" for any malfunction of either the front or rear burners. If the heat signal is asserted and either or both gas valves are not ignited a "**HEATER FAULT**" will occur.

During a "**HEATER FAULT**" the following will occur:

- The "**END OF CYCLE**" light will begin to flash.
- The "**HEATER FAULT RESET BUTTON**" will begin to flash.
- The fan and tumbler will run a "**COOL DOWN CYCLE**" for two (2) minutes.

**IMPORTANT:** A "**HEATER FAULT**" indicates that there is a problem with one or both burners not igniting properly.

"**HEATER FAULT**" errors are caused by;

- Exhaust hi-limit switch open.
- Front or rear burner hi-limit switch open.
- Front or rear burner air flow switch open.
- Either no front or rear flame being sensed by their respective flame probes, caused by either no spark, faulty flame probe, faulty DSI (Direct Spark Ignition) module, or a bad gas valve.

## **"HEATER FAULT RESET"**

The heater fault reset button's warning light will flash at a rate of once per second. Once the reset button is pressed, the following will occur;

- The "**END OF CYCLE**" and "**HEATER FAULT**" lights will stop flashing.
- The Phase 5 keyboard will respond to keystroke inputs, providing the machine lint drawer and load doors are closed.

**NOTE:** If "**HEATER FAULTS**" continue to occur, troubleshooting of the heater section will be required. Refer to the system ladder diagram for heater signal information.

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